

# Study Guide Key

Write the correct answer.

1. Sue Ann is buying concert tickets. She can attend the show on Thursday, Friday, or Saturday. She also must choose between main level and balcony seats. How many choices does she have?

$$3 \text{ days} + 2 \text{ levels} = (6)$$

2. A student registering for fall classes must take either biology, chemistry, or earth science and either algebra, geometry, or pre-calculus. How many choices does a student have?

$$3 \text{ sci} \times 3 \text{ math} = (9)$$

3. For dessert, Rudy must choose between 8 different ice cream flavors. He must also decide whether he wants the ice cream on a sugar cone, a plain cone, or in a cup. How many choices does Rudy have?

$$8 \text{ flavors} \times 3 \text{ container} = (24)$$

4. Sarah and Alicia want to see a movie. There are 3 movie theaters to choose from and each theater shows 6 different movies. How many choices do they have?

$$3 \text{ theaters} \times 6 \text{ movies} = (18)$$

5. You are using a six-sided cube to find different mathematical probabilities. How many possible outcomes are there?

$$6 \text{ outcomes}$$

6. You toss a cube labeled A, B, C, D, E, F. What is  $P(A \text{ or } E)$ ?

$$\frac{2}{6} = \frac{1}{3} = 33\frac{1}{3}\%$$

For questions 7-8, use the game board below.

1	(2)	3	4
5	6	7	8
(9)	10	11	12
13	(14)	15	16

7. What is the probability of a game piece landing on a 2, 9, or 14?

$$\frac{3}{16} = 0.1875 \approx 19\%$$

8. What is the probability of a game piece landing on a number divisible by 4?

$$4, 8, 12, 16 \quad \frac{4}{16} = \frac{1}{4} = 25\%$$

9. The name of each of the 50 states is written on pieces of paper and put in a box. Each student randomly picks two states from the box. What is the probability that the first student will pick Florida?

$$\frac{2}{50} = \frac{1}{25} = 4\%$$

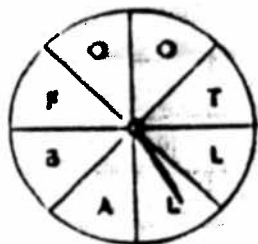
10. A stack of playing cards is numbered 1-10. What is the probability that Shawn will not choose a card with the number 3 or 8?

$$\frac{8}{10} = \frac{4}{5} = 80\%$$

11. Joel has a collection of 12 sports cards. He has 4 football cards, 2 hockey cards, 5 basketball cards, and 1 soccer card. If he mixes them up and picks one card, which kind is he most likely to draw?

$$\text{basketball} \quad \frac{5}{12} = 42\%$$

For questions 12-15, use the spinner to find each probability.



12. What is  $P(T)$ ?

$$\frac{1}{8} = 12.5\%$$

13. What is  $P(L \text{ or } O)$ ?

$$\frac{4}{8} = \frac{1}{2} = 50\%$$

14. What is  $P(E \text{ or } G)$ ?

$$\frac{0}{8} = 0\%$$

15. What is  $P(A, B, F, \text{ or } L)$ ?

$$\frac{5}{8} = 62.5\%$$

16. If you spin the spinner 80 times, about how many times would you expect to get an O?

$$\frac{2}{8} = \frac{20}{80}$$

17. If you spin the spinner 24 times, about how many times would you expect to get an L?

$$\frac{2}{8} = \frac{6}{24}$$

18. Theoretical Probability is when you perform a task like flipping a coin 100 times to figure out the chances of getting a heads or tails?

True or False

19. Susan hit 40 home runs for 100 times At bat. How many home runs can she Expect to make in her next 50 times at bat?

$$\frac{40}{100} = \frac{20}{50}$$

20. Phillip had 8 stars, 4 moons, 5 planets and 3 spaceship stickers in a bag. Phillip picks a sticker then without replacing the first sticker, he picks a second. Find  $P(\text{planet, then star})$ .

$$\frac{5}{20} \times \frac{7}{19} = \frac{7}{76}$$

21. There are 4 Cokes, 2 Dr. Peppers, 7 Mt. Dew and 4 Orange sodas in the cooler. George reaches in and without replacing the first soda takes two sodas. Find  $P(\text{Dr. Pepper, Orange})$ .

$$\frac{2}{17} \times \frac{4}{16} = \frac{1}{34}$$

22. Carl rolls a die and flips a coin. What are his chances of rolling a 4 and getting heads?

$$\frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$$
 This is an Example of Independent events.

23. In the ratio for probability, the numerator is the favorable outcomes and the denominator is the possible outcomes.